

City of Marathon Firefighters' Pension Plan and Trust Fund
Actuarial Valuation as of October 1, 2018
Other Measurements

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.003

	Valuation 7.50%	- 200 bp ¹ 5.50%	Funding Rate ¹ 7.50%	October 1, 2018 + 200 bp ¹ 9.50%
Total pension liability				
Service Cost	\$579,233	\$579,233	\$579,233	\$579,233
Interest	451,266	325,662	444,085	562,508
Benefit changes	0	0	0	0
Difference between expected and actual experience	(102,921)	459,446	341,023	222,600
Changes in assumptions	0	2,676,567	(42,234)	(1,780,861)
Benefit payments	(28,124)	(28,124)	(28,124)	(28,124)
Contribution refunds	0	0	0	0
Net change in pension liability	\$899,454	\$4,012,784	\$1,293,983	(\$444,644)
Total pension liability, beginning of year	5,451,703	\$5,355,963	\$5,355,963	\$5,355,963
Total pension liability, end of year	\$6,351,157	\$9,368,747	\$6,649,946	\$4,911,319
Plan fiduciary net position				
Contributions - Employer	\$158,078	\$157,911	\$157,911	\$157,911
Contributions - State	140,288	140,288	140,288	140,288
Contributions - Member	89,805	89,805	89,805	89,805
Net investment income	608,666	608,666	608,666	608,666
Benefit payments	(28,124)	(28,124)	(28,124)	(28,124)
Contribution refunds	0	0	0	0
Administrative expense	(34,743)	(34,576)	(34,576)	(34,576)
Other	0	0	0	0
Net change in plan fiduciary net position	\$933,970	\$933,970	\$933,970	\$933,970
Plan fiduciary net position, beginning of year	7,940,100	\$7,940,100	\$7,940,100	\$7,940,100
Plan fiduciary net position, end of year	\$8,874,070	\$8,874,070	\$8,874,070	\$8,874,070
Net pension liability/(asset)	(\$2,522,913)	\$494,677	(\$2,224,124)	(\$3,962,751)
Funded ratio	139.72%	94.72%	133.45%	180.69%
Years that Assets support expected benefit payments	27	22	27	100
Estimated city contribution				
Annual dollar value	\$284,612	\$1,011,052	\$271,824	\$0
Percentage of payroll	13.89%	49.35%	13.27%	0.00%

¹Based on valuation assumption with the following changes
-interest rate (as noted)

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2018

Sustainment of Expected Benefit Payments

Mortality Valuation
Interest 7.50%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$8,874,070	\$664,610	\$25,666
2	9,513,014	712,545	25,282
3	10,200,277	763,384	44,449
4	10,919,212	817,260	45,647
5	11,690,825	874,588	60,400
6	12,505,013	927,980	268,754
7	13,164,239	973,646	371,287
8	13,766,598	1,018,603	377,281
9	14,407,920	1,063,019	477,285
10	14,993,654	1,095,655	784,016
11	15,305,293	1,118,272	804,536
12	15,619,029	1,138,041	906,678
13	15,850,392	1,154,950	918,717
14	16,086,625	1,169,517	1,004,279
15	16,251,863	1,180,160	1,051,806
16	16,380,217	1,181,201	1,284,961
17	16,276,457	1,167,696	1,440,397
18	16,003,756	1,142,793	1,561,270
19	15,585,279	1,097,154	1,948,341
20	14,734,092	1,026,396	2,136,232
21	13,624,256	939,547	2,234,331
22	12,329,472	841,699	2,254,405
23	10,916,766	734,866	2,278,293
24	9,373,339	618,443	2,296,392
25	7,695,390	491,328	2,330,840
26	5,855,878	353,142	2,336,894
27	3,872,126	204,070	2,344,777
28	1,731,419		2,354,356

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2018

Sustainment of Expected Benefit Payments

Mortality FRS Special-Risk Mortality Scale BB Generational
Interest 5.50%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$8,874,070	\$487,377	\$25,666
2	9,335,781	512,782	25,282
3	9,823,281	539,074	44,449
4	10,317,906	566,246	45,647
5	10,838,505	594,479	60,400
6	11,372,584	618,200	268,754
7	11,722,030	634,638	371,287
8	11,985,381	648,960	377,281
9	12,257,060	661,189	477,285
10	12,440,964	662,981	784,016
11	12,319,929	655,767	804,536
12	12,171,160	644,814	906,678
13	11,909,296	630,085	918,717
14	11,620,664	611,888	1,004,279
15	11,228,273	589,017	1,051,806
16	10,765,484	557,238	1,284,961
17	10,037,761	512,996	1,440,397
18	9,110,360	458,710	1,561,270
19	8,007,800	387,567	1,948,341
20	6,447,026	296,626	2,136,232
21	4,607,420	192,786	2,234,331
22	2,565,875	79,957	2,254,405
23	391,427		2,278,293

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2018

Sustainment of Expected Benefit Payments

Mortality FRS Special-Risk Mortality Scale BB Generational
Interest 7.50%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$8,874,070	\$664,610	\$25,666
2	9,513,014	712,545	25,282
3	10,200,277	763,384	44,449
4	10,919,212	817,260	45,647
5	11,690,825	874,588	60,400
6	12,505,013	927,980	268,754
7	13,164,239	973,646	371,287
8	13,766,598	1,018,603	377,281
9	14,407,920	1,063,019	477,285
10	14,993,654	1,095,655	784,016
11	15,305,293	1,118,272	804,536
12	15,619,029	1,138,041	906,678
13	15,850,392	1,154,950	918,717
14	16,086,625	1,169,517	1,004,279
15	16,251,863	1,180,160	1,051,806
16	16,380,217	1,181,201	1,284,961
17	16,276,457	1,167,696	1,440,397
18	16,003,756	1,142,793	1,561,270
19	15,585,279	1,097,154	1,948,341
20	14,734,092	1,026,396	2,136,232
21	13,624,256	939,547	2,234,331
22	12,329,472	841,699	2,254,405
23	10,916,766	734,866	2,278,293
24	9,373,339	618,443	2,296,392
25	7,695,390	491,328	2,330,840
26	5,855,878	353,142	2,336,894
27	3,872,126	204,070	2,344,777
28	1,731,419		2,354,356

Information to Comply with Florida Statute 112.664 and Florida Administrative Code 60T-1.0035

October 1, 2018

Sustainment of Expected Benefit Payments

Mortality FRS Special-Risk Mortality Scale BB Generational
Interest 9.50%

<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>	<u>Year</u>	<u>Market Value of Assets</u>	<u>Investment Return</u>	<u>Benefit Payments</u>
1	\$8,874,070	\$841,845	\$25,666	30	\$29,467,963	\$2,690,584	\$2,345,244
2	9,690,249	919,400	25,282	31	29,813,303	2,723,278	2,347,690
3	10,584,367	1,003,451	44,449	32	30,188,891	2,758,718	2,352,886
4	11,543,369	1,094,501	45,647	33	30,594,723	2,797,121	2,356,136
5	12,592,223	1,193,457	60,400	34	31,035,708	2,838,959	2,357,342
6	13,725,280	1,291,425	268,754	35	31,517,325	2,884,756	2,356,393
7	14,747,951	1,383,819	371,287	36	32,045,688	2,935,104	2,353,090
8	15,760,483	1,479,732	377,281	37	32,627,702	2,990,667	2,347,232
9	16,862,934	1,579,822	477,285	38	33,271,137	3,052,188	2,338,746
10	17,965,471	1,670,324	784,016	39	33,984,579	3,120,488	2,327,475
11	18,851,779	1,753,570	804,536	40	34,777,592	3,196,485	2,313,248
12	19,800,813	1,838,987	906,678	41	35,660,829	3,281,199	2,295,865
13	20,733,122	1,926,997	918,717	42	36,646,163	3,375,779	2,274,910
14	21,741,402	2,018,812	1,004,279	43	37,747,032	3,481,521	2,249,916
15	22,755,935	2,112,986	1,051,806	44	38,978,637	3,599,888	2,220,534
16	23,817,115	2,202,975	1,284,961	45	40,357,991	3,732,512	2,186,390
17	24,735,129	2,282,970	1,440,397	46	41,904,113	3,881,223	2,146,963
18	25,577,702	2,357,404	1,561,270	47	43,638,373	4,048,071	2,101,872
19	26,373,836	2,415,068	1,948,341	48	45,584,572	4,235,321	2,051,016
20	26,840,563	2,450,684	2,136,232	49	47,768,877	4,445,444	1,994,711
21	27,155,015	2,476,003	2,234,331	50	50,219,610	4,681,119	1,933,209
22	27,396,687	2,498,030	2,254,405	51	52,967,520	4,945,259	1,866,674
23	27,640,312	2,520,066	2,278,293	52	56,046,105	5,241,025	1,795,577
24	27,882,085	2,542,194	2,296,392	53	59,491,553	5,571,811	1,720,852
25	28,127,887	2,563,946	2,330,840	54	63,342,512	5,941,275	1,642,807
26	28,360,993	2,585,810	2,336,894	55	67,640,980	6,353,425	1,561,046
27	28,609,909	2,609,091	2,344,777	56	72,433,359	6,812,645	1,476,098
28	28,874,223	2,633,756	2,354,356	57	77,769,906	7,323,702	1,388,102
29	29,153,623	2,660,672	2,346,332	58	83,705,506	7,891,810	1,297,069